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Group 1751

REMARKS

Claim 8 stands rejected under 35 USC §112, second paragraph, as being indefinite. Applicant has canceled claim 8 and has rewritten claim 8 as new claim 13. New claim 13 is now dependent from a previous claim 9. Applicants respectfully request that in light of this amendment the objection to claim 8 will be withdrawn and the claim allowed.

Claims 1-4, 6 stand rejected under 35 USC §103(a), as being obvious over Clariant WO 98/554264 (USP 6,210,448) or Clariant (WO 98/58025) (USP 6,309,427) in view of Erbsloeh DE 3641766. Applicants traverse. In the rejection under 35 USC § 103(a) the office relies practically only on the sealing parameters and mentions that US 6,210,448 discloses anionic chromium complex dyes having sulphonate groups, which are useful for dyeing anodized aluminum or aluminum alloys, followed by rinsing and sealing.

In the present Case the invention is based on the finding that by using certain particular defined dyes, which per se give an insufficient light fastness when sealed with e.g. conventional steam sealing or hot Ni-ions sealing, there may be achieved an exceptionally and unexpectedly high improvement by using a certain particular sealing process, and the invention is to be seen in the defined combination of the use of the defined dyes with the particular sealing process, as defined in Claim 1. The dyes are in particular those giving a light fastness below grade 7 of the dyeing on anodized aluminum, as defined in Claim 3, and more particularly those containing substituents or components capable of forming labile nickel complexes, as defined in Claim 4 and as more particularly mentioned in Claim 5.

The dyes preferably contain sulpho groups and also the dyes of the cited US

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patents contain sulpho groups. The presence of a sulpho group in the dyes employed in US 6,210,448 does not provide capability of forming any nickel complex. A sulpho group is normally not considered to be a ligand capable of forming a metal complex, because metal complex formation is based on the formation of co-ordination complex bonds, which are bonds of homopolar character (i.e. of the covalent kind, or where the covalent character prevails), whereas a sulpho group forms typically ionic i.e. heteropolar bonds with metal ions. A sulpho group can thus not be considered to be a "ligand" capable of forming a metal complex with nickel ions.

The chromium complex dyes employed for dyeing in US 6,219,448 (=WO 98/54264) and also in US 6,309,427 (=WO 98/58025) give dyeing of a very high light fastness (light fastness grade >9) even when sealed with hot water (Application Example A) or hot nickel acetate (Application Examples B, C, D). The light fastness table (table 2) is a description of the light fastness scale by which light fastness grade is determined; the measured value for the dyeing of WO 98/54164 and WO 98/58025 (or US 6,210,448 and US 6,309,427) is in the first two lines of the paragraph following table 2, where there is mentioned that the dyeings are unchanged after 8 exposure cycles (i.e. after 1600 hours) which corresponds to a light fastness grade of >9.

With a particular view to the two-stage process according to Claim 2, (independently from DE 3641766 below which mentions sealing by first cold treatment with Ni and F ions and then hot treatment with water or steam) reference is made to US 6,210,448, col. 7, lines 39-41, where for a two stage treatment the first stage consists advantageously of a treatment with hot water, whereas according to Claim 2 of the present patent application the first stage is the cold treatment with Ni ions and F ions.

DE 3641766 mentions sealing by first cold treatment with Ni and F ions and then hot treatment with water or steam. The kind of dyes employed is not specified. In the sole

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Example the anodized aluminum is rinsed and then electrolytically dyed with a dyeing electrolyte comprising a metal salt and an organic dye component, which are not specified. After this dyeing the treated material is rinsed and then immersed for 6 minutes into an aqueous solution containing nickel ions and fluoride ions at 28-30°C and then sealed with hot water. After the example (col. 2, lines 46-47 and 51-52) there is a sentence mentioning the possibility of treating by the same method profiles that have been dyed adsorptively in a dyebath directly after anodisation. This document does not contain any description of the kind of dyes used or meant.

Claims 1, 3, 6, 7 stand rejected under 35 USC §102(b), as being anticipated by Clariant (WO 98/554264 (USP 6,210,448). Applicants traverse. The presence of a sulpho group in the dyes employed in US 6,210,448 does not provide capability of forming any nickel complex. A sulpho group is normally not considered to be ligand capable of forming a metal complex, because metal complex formation is based on the formation of co-ordination complex bonds, which are bonds of homopolar character (i.e. of the covalent kind, or where the covalent character prevails), whereas a sulpho group forms typically ionic i.e. heteropolar bonds and metal ions. A sulpho group can thus not be considered to be a "ligand" capable of forming a metal complex with nickel ions. As claim 1 of the instant application contains the limitation that:

"... at least one water-soluble anionic dye (A) which possesses at least one substituent and/or component combination with a ligand character that is capable of forming a nickel complex with nickel ions . . . "

Applicants respectfully request that the objections to claims 1, 3, 6, 7 under 35 USC §102(b) be withdrawn and the claims allowed.

Claims 1, 3, 6, 7 stand rejected under 35 USC §102(b), as being anticipated by Clariant WO 98/58025) (USP 6,309,427). Applicants traverse. The presence of a

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sulpho group in the dyes employed in US 6,309,427 does not provide capability of forming any nickel complex. A sulpho group is normally not considered to be ligand capable of forming a metal complex, because metal complex formation is based on the formation of co-ordination complex bonds, which are bonds of homopolar character (i.e. of the covalent kind, or where the covalent character prevails), whereas a sulpho group forms typically ionic i.e. heteropolar bonds and metal ions. A sulpho group can thus not be considered to be a "ligand" capable of forming a metal complex with nickel ions. As claim 1 of the instant application contains the limitation that:

"... at least one water-soluble anionic dye (A) which possesses at least one substituent and/or component combination with a ligand character that is capable of forming a nickel complex with nickel ions . . . "

Applicants respectfully request that the objections to claims 1, 3, 6, 7 under 35 USC §102(b) be withdrawn and the claims allowed.

Claims 6-10 stand rejected under 35 USC §103, as being obvious by Clariant WO 98/554264 (USP 6,210,448) or Clariant (WO 98/58025) (USP 6,309,427). Applicants traverse. The chromium complex dyes employed by dyeing in US 6,219,448 (WO 98/54264) and also in US 6,309,427 (WO 98/58025) give dyeing of a very high light fastness (light fastness grade >9) even when sealed with hot water. The presence of a sulpho group in the dyes employed in US 6,309,427 or US 6,210,448 does not provide capability of forming any nickel complex. A sulpho group is normally not considered to be ligand capable of forming a metal complex, because metal complex formation is based on the formation of co-ordination complex bonds, which are bonds of homopolar character (i.e. of the covalent kind, or where the covalent character prevails), whereas a sulpho group forms typically ionic i.e. heteropolar bonds and metal ions. A sulpho group can thus not be considered to be a "ligand" capable of forming a metal complex with nickel ions. As claim 1 of the instant application contains the limitation that:

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"... at least one water-soluble anionic dye (A) which possesses at least one substituent and/or component combination with a ligand character that is capable of forming a nickel complex with nickel ions ..."

The water-soluble anionic dye (A) of the present invention, unlike the chromium complex dyes of US 6,219,448 and US 6,309,427, are considered to have "too low light fastness, are usually considered as being unsuitable or not well suitable for the dyeing of aluminum oxide layers". (See Application page 2, first full paragraph) Based on these differences Applicants respectfully request that the objections to claims 6-10 be withdrawn and the claims allowed.

Claims 1 and 5 stand rejected under 35 USC §103, as being obvious from Ciba Ltd, GB 703949 in light of Clariant WO 98/554264 (USP 6,210,448). Applicants traverse. GB 703,949 does not contain any generic teaching about sealing. The only mention of scaling is in the first example and is carried out by treatment with boiling water. GB 703,949 contains no teaching or suggestion of using nickel ions and fluoride ions in the sealing bath and must less in a cold sealing. In particular it contains no description or suggestion that any kind of improvement might be achieved with any cold scaling.

In the Reasons at page 6 of the Office Action, in the two sentences at lines 7-11, the first of the two sentences begins with the statement at lines 7-8 that:

"Clariant is applied as teaching that dyeing aluminum oxide layers with anionic metal complex dyes....etc."

This statement contains a broadening or generalization of the content of the cited document that is not justified and can only be based on a hindsight view. Clariant does not teach the dyeing with "anionic metal complex dyes" in general, but only with

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certain very narrowly defined sulpho-group-containing 1:2 chromium complex dyes, and the light fastness of the dyeing is very high, independently from the particular sealing method. These chromium complex dyes are distinct from the cobalt and copper complexes of GB 703,949 and there is no reason or suggestion for combining or interchanging the content of the two documents.

In the Reasons at page 6 of the Office Action, in lines 7-11, the cited sentences continue in lines 8-11:

".....can be sealed alternatively by steam or boiling water or by preparations comprising nickel and fluoride ions. ...*(omissis)*...such sealing with metal salt permits particularly effective suppression of dye bleeding.....".

This statement contains a construed interrelation of the content of the cited document that does not correspond to the content of the cited text portions. In the sentence mentioning suppression of bleeding there is no mention of fluoride ions or of cold sealing. Although fluoride and cold sealing are mentioned later in the same paragraph as a possible way of sealing, they are not mentioned in direct connection with suppression of bleeding. Consequently also the conclusion at page 6 of the Office Action in line 11 that effective suppression of bleeding would give motivation to seal with nickel salts can at most mean that also nickel salts (e.g. acetate) may be meant, but does not yet mean cold sealing and a sealant necessarily comprising fluoride ions. Applicants respectfully request that the objections to claims 1 and 5 be removed and the claims allowed.

Summarizing, US 6,210,448 and US 6,309,427 use 1:2-Cr-complex dyes giving dyeing of very high light fastness and do not correspond to the definition in the paragraph bridging pages 2 and 3 of the present patent application. DE 3641766 (which is mainly directed to the sealing of dyeings comprising electrolytic dyeing with metal salts and just

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The meaning of this objection is not clear; if it is intended to object that it would have been "obvious" to use a cold sealing as claimed in the present patent application also in this comparative text, there may be observed that a single comparative test does not belong to the general teaching of the cited reference, but is only a reproduction of an experiment referred in another document, and to modify it ex post would unduly stretch the meaning of the comparison. Further, Claim 3 is not directed to any dye giving dyeings of low light fastness, but only to those with ligands capable of Ni-complex formation, particular labile Ni-complex formation, as described in the paragraph bridging pages 2 and 3 of the specification. Table 2 in col. 12 of US 6,210,448 does not as such illustrate any comparative test values, but is a light fastness table that shows how the light fastnesses are rated and corresponds e.g. also to the light fastness table at page 9 of the present patent application.

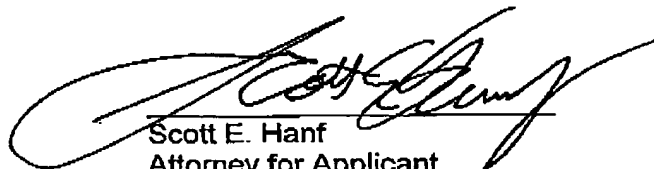
New claims 13 - 16 have been added. Claim 13 is simply a rewrite of original claim 8, now cancelled. Claims 14 and 15 are derived from the specification on pages 3 and 4, no new matter has been added. Claim 16 is derived from the specification at page 3, in lines 2 - 4.

As the total number of claims does not exceed the number of claims originally paid for, no fee is believed due. However if an additional fee is required, the Commissioner is hereby authorized to credit any overpayment or charge any fee deficiency to Deposit Account No. 03-2060.

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Entry of the above amendment is respectfully requested. The claims are fully supported by the specification.

Respectfully submitted,



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